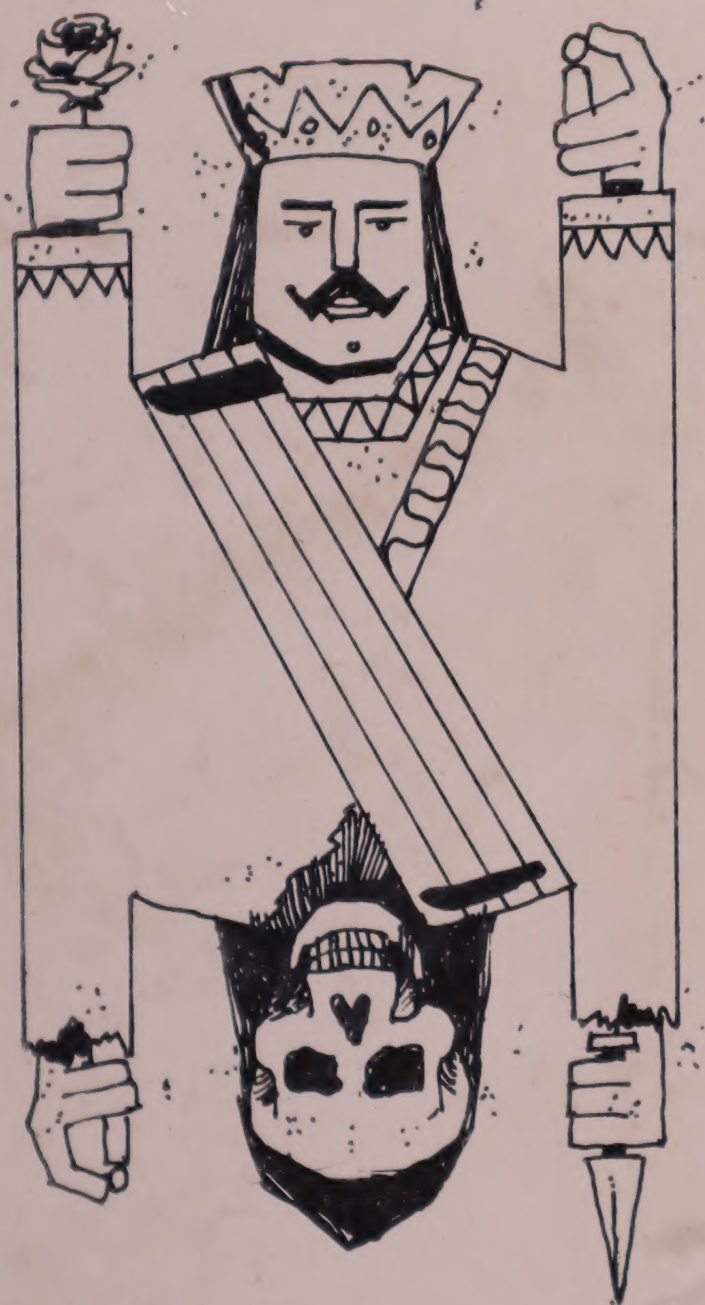


The Rational Use Of Medicines



VHAI

0755

Community Health Cell

Library and Information Centre

367, "Srinivasa Nilaya"

Jakkasandra 1st Main,

1st Block, Koramangala,

BANGALORE - 560 034.

Phone : 553 15 18 / 552 53 72

e-mail : chc@sochara.org

The Rational Use Of Medicines

COMMUNITY HEALTH CELL

Voluntary Health Association of India
New Delhi

Illustrations : Anil

(C) Voluntary Health Association of India, 1988

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, without the prior permission of the Voluntary Health Association of India.

This book is sold subject to the condition that it shall not, by way of trade or otherwise, be lent, re-sold, hired out, or otherwise circulated without the publisher's prior consent in any form of binding or cover other than that in which it is published and without a similar condition including this condition being imposed on the subsequent purchaser.

DR 410

0733

COMMUNITY HEALTH CELL
47/1. (First Floor) St. Marks Road,
Bangalore - 560 001.

Published by :

Voluntary Health Association of India
40, Institutional Area
South of I.I.T.
New Delhi 110 016

Printed and Designed by : CHITRAKOOT 6, Sukh Vihar
Delhi-110 051

Preface

The rational use of medicines, ensuring a rational drug and health policy, the availability of essential drugs, are some of VHA's major concerns.

Most people fall ill at some time of their lives and need medicines to recover. These medicines are usually prescribed by a doctor.

Many medicines can be life saving but they can also have serious side effects, if not used properly. People have a right to effective and safe medicines.

Medicine was once both an art and a science. The relationship between a traditional healer and his patients was not a purely commercial one. Today many health professionals are interested only in making as much money as possible from patients whom they claim to "cure" through using a large number of medicines. They usually ignore the fact that medicines though necessary are not enough. Good health is in fact maintained through other factors such as a balanced diet, safe water, hygienic working and living conditions and a simple lifestyle.

Health products have been commercialised. Official policies are concerned only with targets and remunerative prices, and not with the real needs of the people. There is an

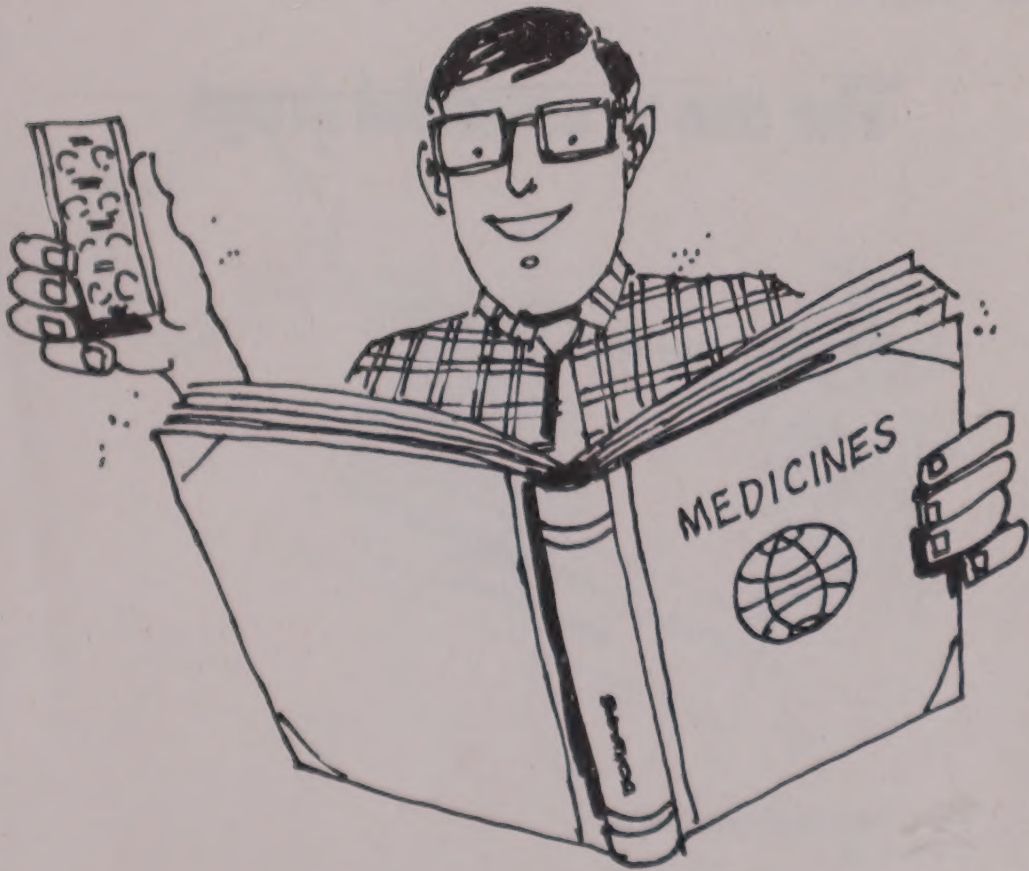
abundance of unnecessary products like tonics, nutritional supplements, vitamins, cough syrups, pain killers, anti-diarrhoeals, digestive enzymes, whereas essential drugs to treat major diseases like TB and leprosy, or vaccines to prevent disease are in short supply.

This booklet is an attempt to familiarise the common citizen with the principles of drug use, and help in understanding the difference between essential and non-essential drugs, to avoid useless, irrational and hazardous drugs, distinguish between brand and generic names, avoid the dangers of over use and misuse of drugs and obtain value for money paid.

Detailed information on the various subjects mentioned here is available at VHA1, 40 Institutional Area, South of IIT, New Delhi-110016.

What are rational drugs?

Rational drugs are those drugs which are accepted world wide and included in the standard textbooks of medicine and pharmacology, and medical journals. There is no controversy about their efficiency and safety.



Do I really need this medicine?

What are essential drugs?

Essential drugs are those drugs which are vital for the health needs of the people in a country, region, institution. Essential drugs must be:

1. effective
2. safe
3. meet the medical need
4. offer value for money

More detailed information will be found in the WHO's report on the use of essential drugs (Technical Report Series 722 WHO 1985). An Indian reprint, priced at Rs. 10/- is available at VHAI.

The use of essential drugs

Second report of the WHO
Expert Committee

MODEL LIST OF ESSENTIAL DRUGS
(Fourth Revision)

Technical Report Series
722

World Health Organization, Geneva 1985

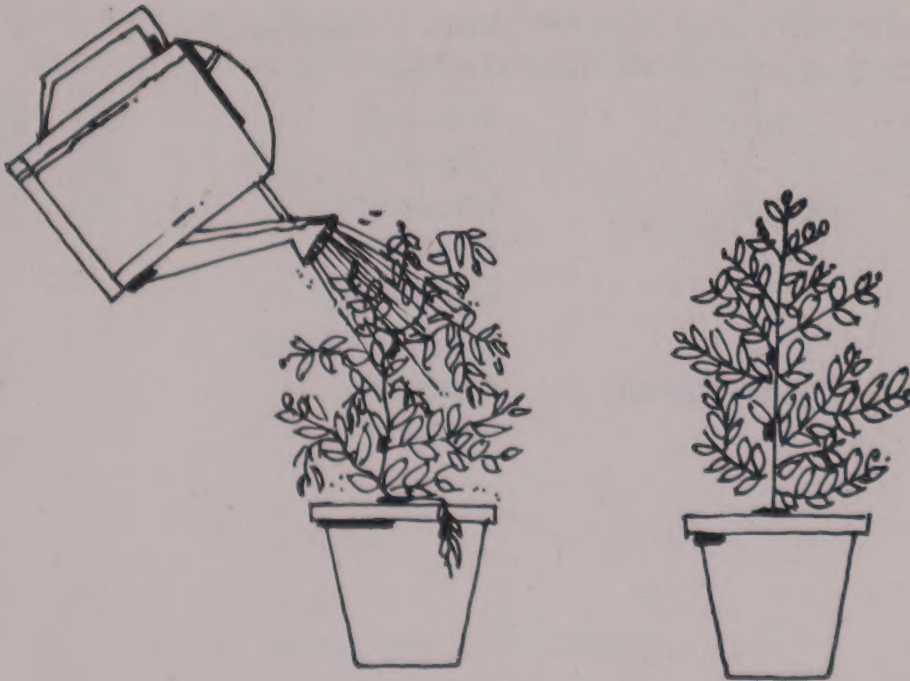
What are priority drugs?

Priority drugs are drawn from among the essential drug list. They are the drugs whose production, distribution and availability needs maximum attention. They are required for diseases which have

greater mortality (death) e.g. diarrhoea, tetanus, snake bite, rabies.

greater morbidity (illness) e.g. polio, vit. A deficiency, meningitis

communicability e.g. TB, Leprosy.



We need priority drugs to survive

What are generic names?

A generic name is the scientific name of a medicine, as distinct from the brand names given to it by different companies that make it. Generic names are used in medical and pharmacology books. They are also used in journals and publications and in international tenders for imports and exports of medicines in different countries and in medical education.

Drugs are generally cheaper when purchased under generic names. Drug companies charge hiked prices for their brands by aggressive promotional and marketing techniques.

Marketing medicines under their generic names will check promotion of several brands having the same drug in various combinations and which vary unduly in costs.

<i>Generic</i>	<i>Brands</i>
Aspirin	Disprin
	Equegenic
	Mecropyrin
	Optalidon
Paracetamol	Paramet Palgin
	Norgesic
	Ibugesic

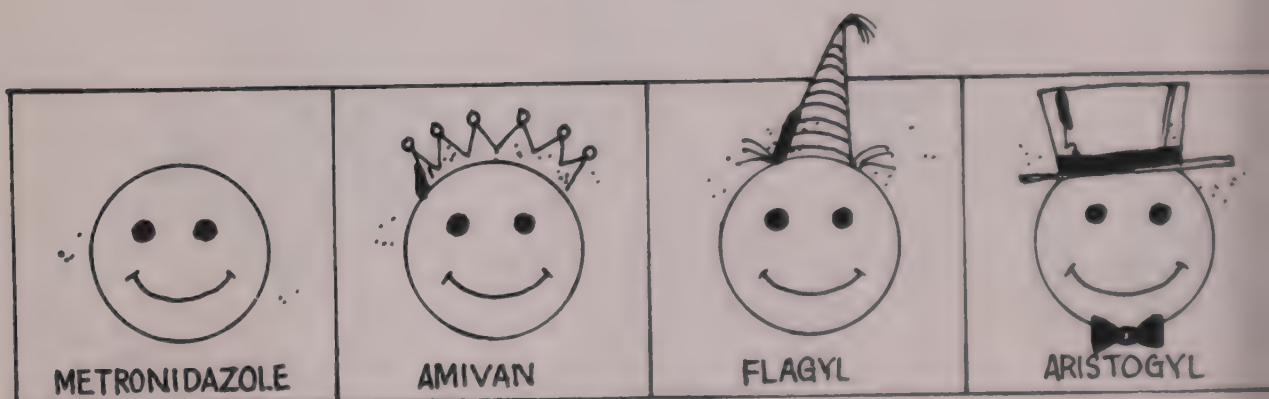


Which one do I choose?

What are brand names?

There are the trade names of drugs, and their combinations given by the drug companies to their products.

There is great (and unnecessary) variation in the prices of drugs sold under brand names as the promotional expenditure and administrative overheads are added on to the costs of the final products.



The same with different names

e.g. 1. Generic	Brand	
Metronidazole	Amivan	200 mg cost Rs. 2.41 for 10 tabs
	Flagyl	200 mg cost Rs. 2.84 for 10 tabs
	Aristogyl	200 mg cost Rs. 3.76 for 10 tabs
2. Mebendazole	Mebazole	cost Rs. 3.60 for 6 tabs
	Meber	cost Rs. 4.88 for 6 tabs
	Mendazole	cost Rs. 2.13 for 6 tabs
	Sugandazole	cost Rs. 5.08 for 6 tabs

While only 200 drugs are advised by the WHO to cover most illness, we have over 60,000 formulations (brand names) of drugs produced by 8000 pharmaceutical companies in our country.

What are irrational drugs?

Irrational drugs are those which have not been proved to be effective and safe.

A combination of 2 or more rational drugs becomes an irrational formulation, for the following reasons:

1. increased cost
2. increased chances of drug interaction
3. cause revision of drug pricing
4. controlling quality and drug is difficult
5. monitoring of drug reactions becomes difficult
6. information about different ingredients is either not given or is not specific.

- e.g. — steroid combinations
— combination of cough suppressant and cough expectorant
— combination with chloroform

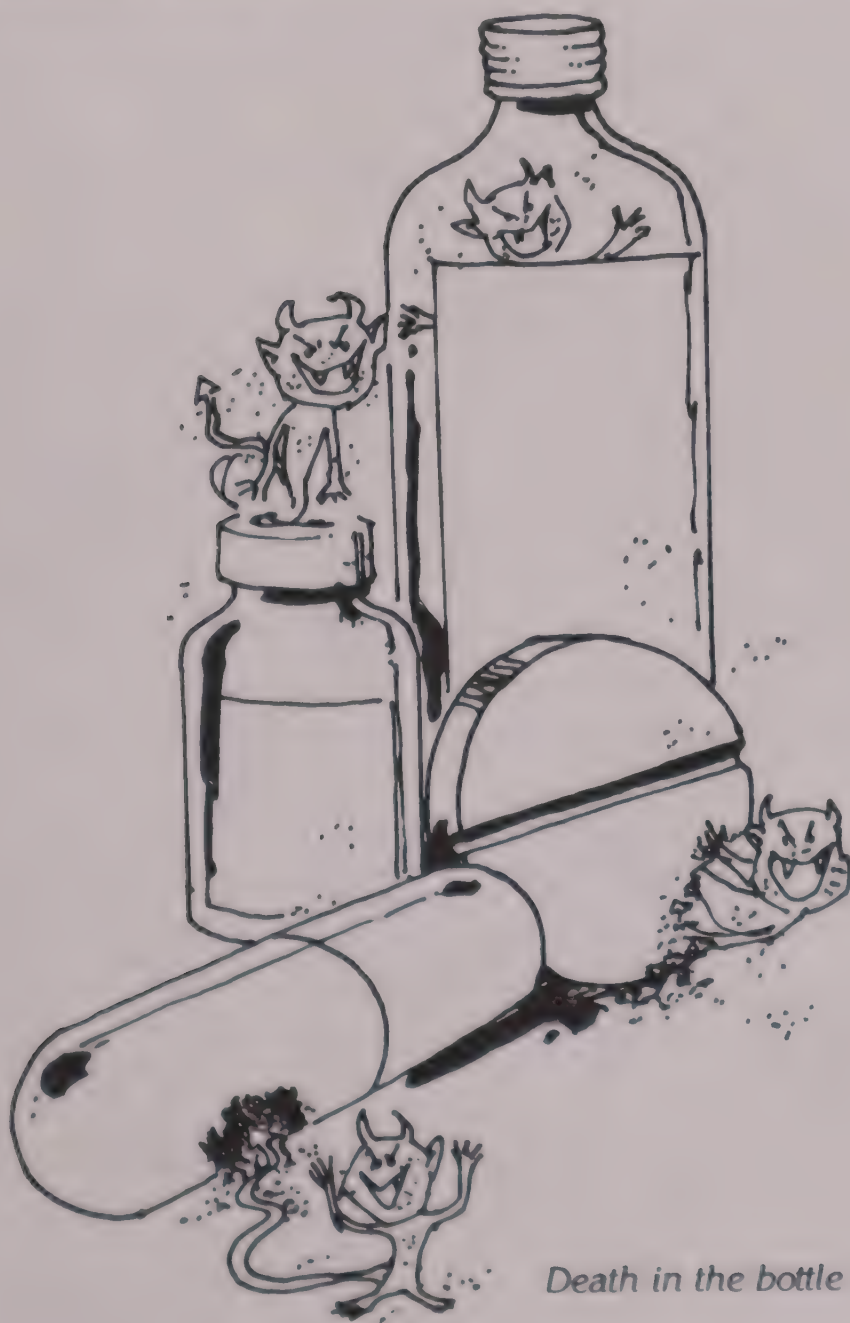


Irrational combination

What are hazardous drugs?

Hazardous drugs are those with high unfavourable side effects. Since safer and effective alternatives are usually available, they should not be marketed at all.

Examples of hazardous drugs are given on the following pages.



Clioquinols are hazardous antidiarrhoeals

These are drugs widely used for treating diarrhoea. Sometimes they are even used as preventives.

e.g. mexaform, phanquone, amicline, diodoquin, chlorambin, enteroquinol, floraquin, nivembin, quogyl etc.

These are dangerous drugs. They can cause SMON (Subacute Myelo Optic Neuropathy) involving pain, paralysis, blindness, even death.

(Lomotil and imodium are dangerous and should *never* be used for children).

Safer alternative:

Oral rehydration therapy (ORT) (1 litre of clean preferably boiled water, 1 tsp of salt (3.5g), 1 scoop (8 tsp) of sugar or gur (20g).

For amoebic dysentery use ORT and metronidazole.



Simple and effective

Hazardous pain killers

These include drugs used for pain, inflammation, fever, which may cause:

Agranulocytosis—a fatal blood disorder where the white cells of the blood almost disappear and the person has overwhelming infection.

- e.g. 1. Oxyphenbutazone/phenylbutazone combined in Actigesic, Amidozone, Butacost, Butapronyvom, Esgipyrin, Flamar, Jagril, Maigesic, Oxalgin, Placidin, Tanderil, Zolandia etc.



Before

During

After

Thereafter

2. Analgin/Dipyrone/Metamizol/Sulfpyrine contained in Novalgin, Baralgin, Buscopan compound, cemizole, dolo-neuroloion oralgin, pamagin, spasmolysin, zymalgin A etc.

Besides Agranulocytosis (fatal blood disease) these can also cause:

Stomach ulcers

Liver and kidney damage

Drugs containing dextropropoxyphene and pentazocine can become addictive, i.e. the patient may become dependent on them.

Safer alternatives : Aspirin
 Paracetamol

N.B. Aspirin has recently been linked to a fatal disease called Reye's syndrome which kills 30% of its victims, mostly children below age 15. Giving aspirin to children who have fever is not worth the risk.

What are anabolic steroids?

Anabolic steroids are hormones with androgenic (male) activity.

These are drugs promoted as tonic and growth stimulants for children but their use is quite unjustified for these purposes

e.g. Adroyd, Onabolix, Aquaviron B₁₂ Decadurabolin, Decobolin, Evabolin, Neurabol H, Orabolin, Trinergic etc.

These drugs are dangerous. They stunt bone growth in children, and cause masculinization of girls.

Safer alternative : Nutritious food for children, like egg, milk, fruits, vegetables.



What are EP drugs?

These are combinations of Estrogen and Progesteron (EP). Estrogen and progesteron are hormones produced in the ovary of a woman.

High dose EP drugs are being used in pregnancy tests and for inducing abortions.

When used during pregnancy they can produce malformations of the child. *They do not abort the foetus, as is commonly believed,*

High dose EP drugs are sold as EP forte, Menstrogen, Orasecron forte, Disecron forte, Orgalution etc.

High dose EP drugs were neither registered nor marketed in Netherlands, even though these have been originally developed there.

Safer methods of pregnancy testing exist e.g. the urine test.



High dose E.P. Pregnancy test may produce a malformed child

733

21
COMMUNITY HEALTH CELL
47/1, 1st floor, St. Marks Road
Bangalore - 560 001.

What are injectable contraceptives?

These are synthetic hormones similar in structure to progesterone, a female hormone. When high doses are administered it disrupts the hormonal balance of the body, one of the resultant effects being prevention of ovulation which is the contraceptive effect.

Depo Provera and NET-EN are injectable, long acting contraceptives.

Menstrual cycle disturbances are very common in those who use them.

Many of our women are anaemic and they would suffer further from such contraceptives.

These contraceptives also cause headaches, weight gain, dizziness, and abdominal discomfort.

Investigations regarding increases in risk of cancer of breast and cervix in those using injectable contraceptives are going on. Safety of the foetus in case one gets pregnant very soon on stopping these drugs cannot be guaranteed.

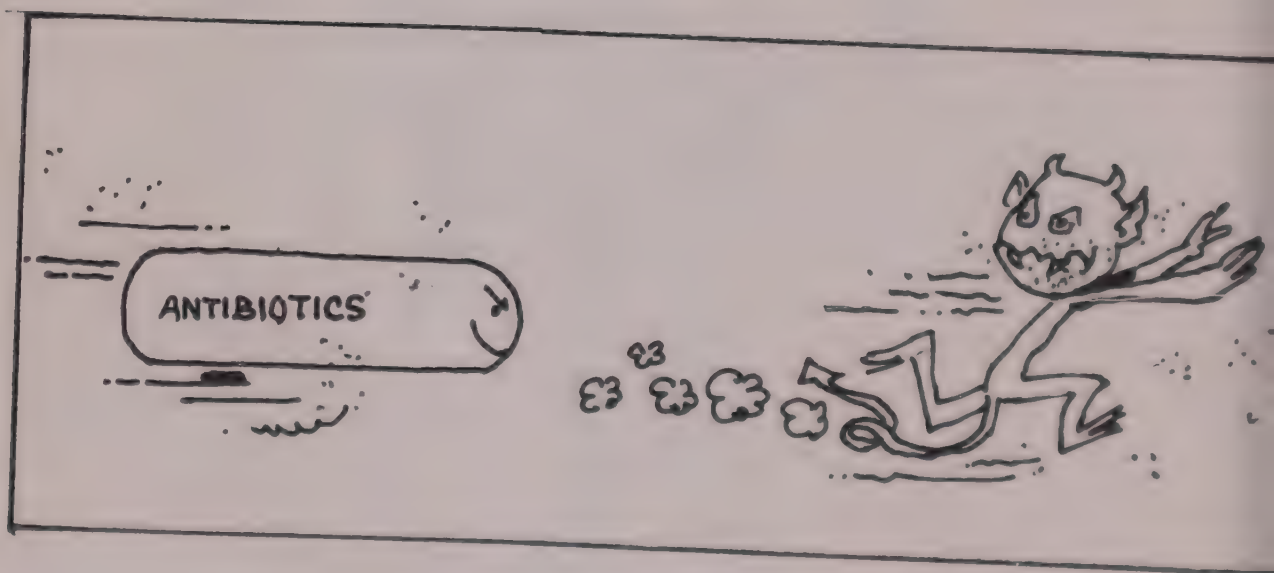
Experiments on animals have shown that they are not safe.

These drugs should not be used in our family planning programmes.



What are antibiotics?

Antibiotics are medicines produced by microorganisms which have the power to inhibit the growth and even to destroy pathogenic bacteria. Chemically related substances are now synthetically produced.



Keep germs away the right way

Use antibiotics judiciously

e.g. penicillin, chloramphenicol, streptomycin, erythromycin, sulfas, tetracyclines, gentamycin etc.

Misuse of antibiotics causes organisms to become resistant to these, leading to the spread of resistant organisms.

Chloramphenicol is a drug for use in typhoid fever. It can cause depression of bone marrow which can be fatal, So do not use chloramphenicol in diseases treatable with other antibiotics.

Similarly, streptomycin should be reserved for tuberculosis.

Except in a few instances (e.g. sulphamethoxazole and trimethoprim)* combinations of antimicrobials are irrational.

e.g. chlorostrep, streptopenicillin

* sold as Septran, Bactrim etc.

Precautions when using antibiotics

1. Do not use antibiotics for diseases which do not respond to antibiotics.
e.g. common cold which is caused by virus or diarrhoea caused by virus.
2. Take antibiotics in the correct dosage and for the full recommended period, 7 days or more.
3. Ask clearly as when to take the drug, before or after meals.



4. Check expiry dates of antibiotics, they deteriorate with time and can become harmful.
5. Find out the side effects of antibiotics, used.
6. Inform your doctor if you have ever had an allergic reaction to any drug especially penicillin.
7. Discontinue the drug if you find any troublesome side effects and inform your doctor.

What are useless drugs?

Useless drugs are those whose usefulness has not been proved.

These drugs simply create a false sense of security among prescribers and patients without actually helping to cure the patient.

They are a waste of money.



Don't bury yourself under useless drugs

Some useless drugs

1. Enzymes and chymotrypsin used as anti-inflammatory agents.
e.g. chymar, chymoral, alfatrip etc.
Their effectiveness in tackling inflammation is doubtful and not proved.
2. Digestive enzymes which are of uncertain value.
e.g. Bestozyme, digiplex, molzyme, unienzyme, vizylac, take diastase, etc.
3. Lacto bacillus preparations.
e.g. Lactsyn, Nutiolin-B. They may produce unwanted metabolic effects.
4. Combinations of cough sedatives and expectorants, which have opposing effects on cough reflex.
e.g. Expectorants of Benadryl, avil, cadistan, cinaryl, corex, dilosyn, eskold etc.
5. Topical anticoagulants (used on skin)
e.g. hirudoid, heparin, thrombophobe,
They cannot dissolve clots, and are not absorbed.
6. Brain activators like pyritinol and piracetam.
e.g. Encephabol
Once a nerve cell is destroyed it cannot be re-activated.

7. Brain vasodilators.
e.g. complamina, cyclasyn, cyclospasmol, duvadi-
lan etc.

Cerebral arteries do not have much elasticity and are often arteriosclerotic in patients needing treatment.

- 8 Placentrex has been advocated in several disorders, but there is no evidence of its efficacy.



Tonics and vitamins

In 1985, tonics worth Rs. 36 crores were sold! However, this was due more to clever advertising than to real benefits.

In reality, tonics are a waste of money!

People who have a balanced diet do not suffer from vitamin deficiency.

No medical textbook recommends tonics.

Tonics cannot restore weight loss or fatigue. It is the underlying cause which needs to be attended to.

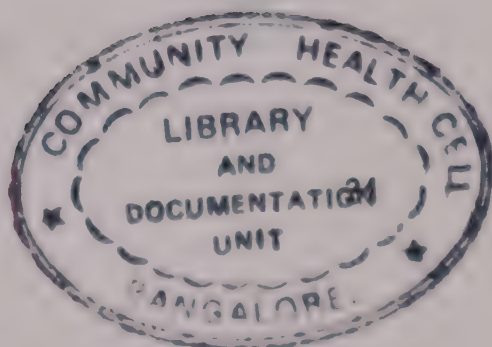
Caffeine, strychnine, leptazol which are contained in tonics can be harmful.

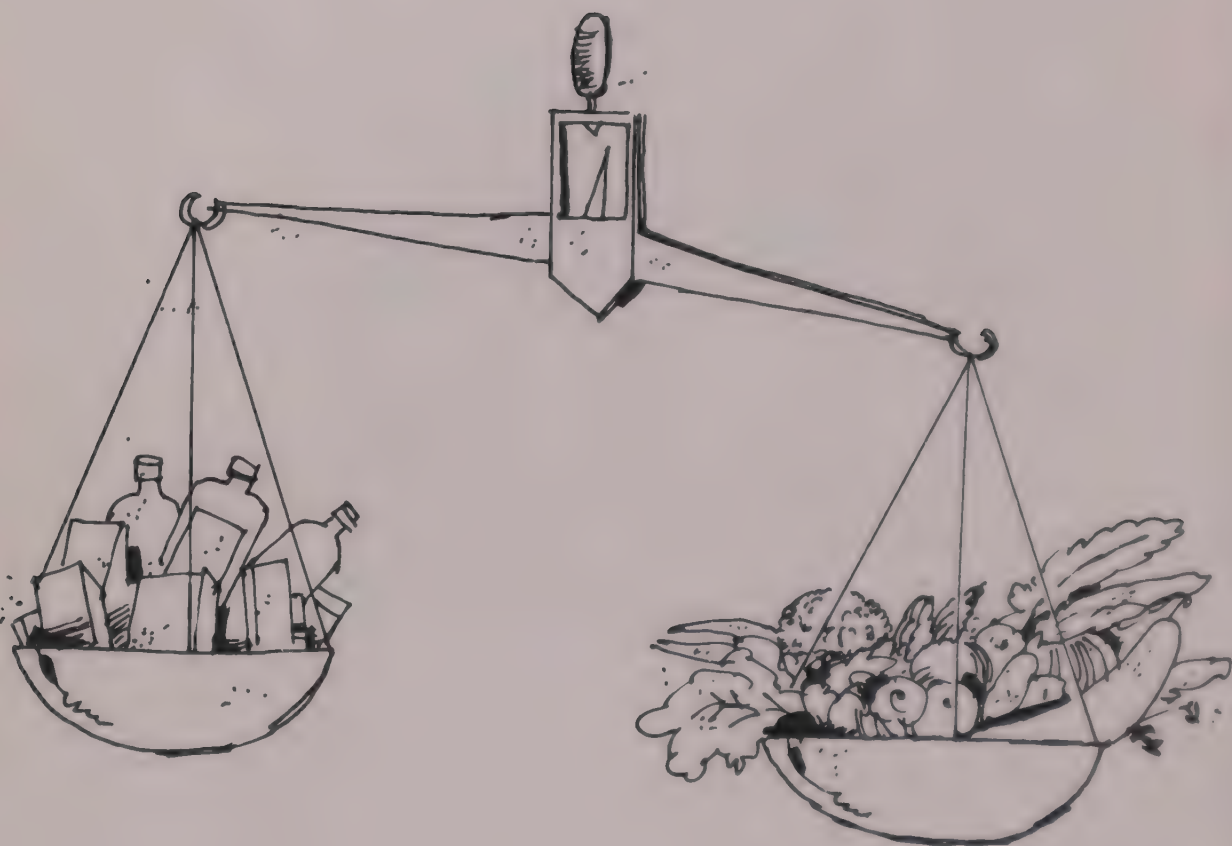
Misuse of vitamins is expensive damage.

Vitamin D supplements should be avoided in children who have adequate exposure to sunlight.

Vitamin A overdose can cause skin disorder, joint swellings and increased pressure within the skull.

733





A balanced diet outweighs pills and tonics

Medicines in pregnancy

There are a number of drugs which cross through the human placenta and enter the circulation of the foetus.

The greatest risk of injury occurs during the first three months of pregnancy.

It is therefore advisable to avoid all drugs at least during the first three months of pregnancy.

During the 4-9 months, drugs can affect the growth of the foetus

Drugs given just before labour may have effects on the newborn child.

Some drugs to be avoided *completely* during pregnancy:

Androgens, estrogens, diethyl stilbestrol, oral contraceptives, progesterone, anabolic drugs (hormones to stimulate appetite and weight gain) colchicine, cyclophosphamide, tetracyclines, nicotine (tobacco), alcohol.

Other drugs which may be harmful and should therefore be avoided as far as possible:

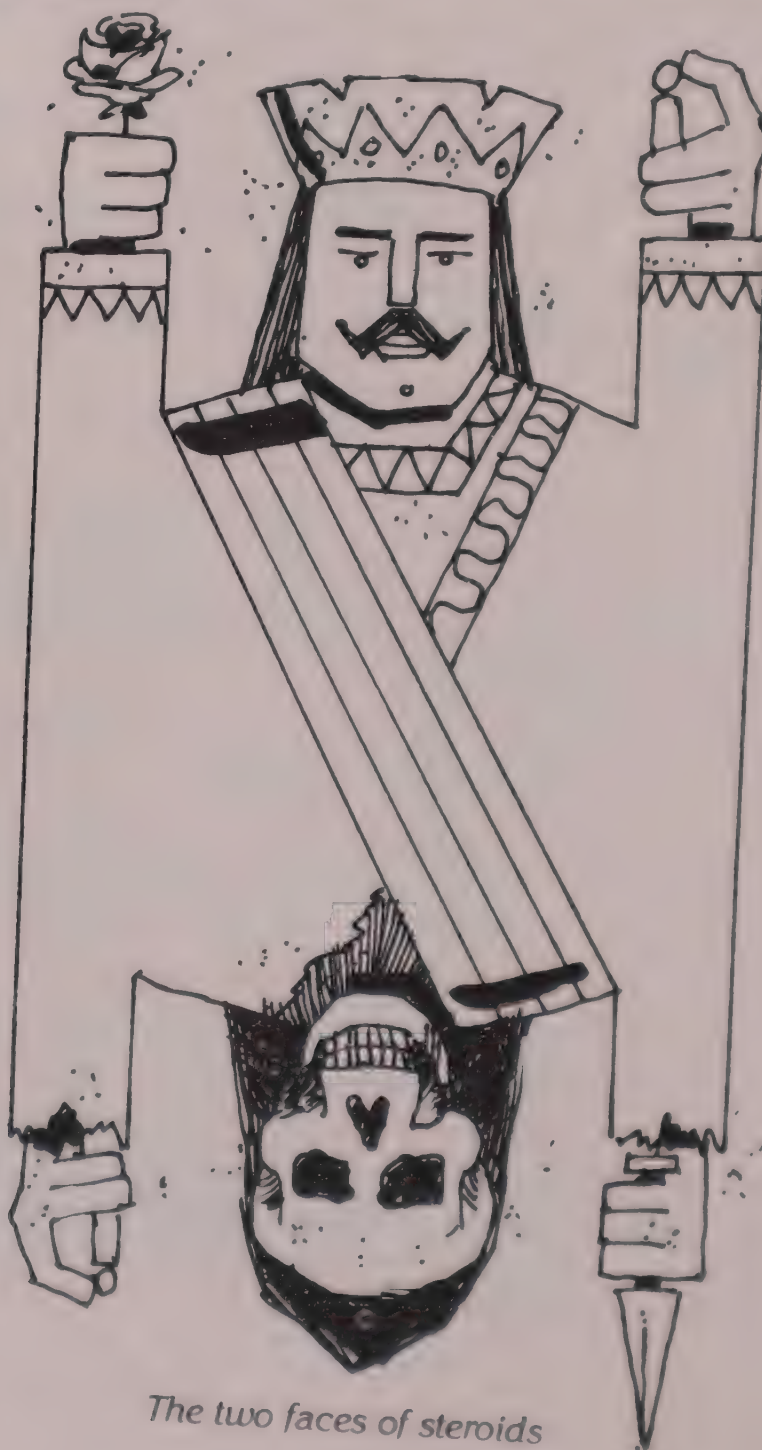
amphetamine, anticancer drugs, oral anticoagulants, barbiturates, carbamazepine, chloramphenicol, chloroquin, cotisone, haloperidol, metronidazole, phenytoin, quinine, streptomycin

Drugs to be avoided by a nursing mother as these medicines are passed on to the baby in the breast milk:

Androgens, anticancer drugs, oral anticoagulants, chloramphenicol ergotannine, erythromycin estolate heroin, isonex, meprobamate metronidazole, tobacco, oral contraceptives, penicillin propranolol, sulfonamides tetracycline.

What are steroids?

These are potent anti-inflammatory and life saving drugs but if improperly used can cause life threatening complications.



The commonly used steroids are prednisolone and dexamethesone which are contained in pain killers like Deltaflamar, Rimatin, Retaflam etc., and in anti-asthma preparations like Betasma, Cortasmyl etc.

Overuse and misuse of steroids can activate infections like tuberculosis, bleeding peptic ulcer, can cause bones to become fragile, precipitate unconsciousness in diabetics.

Avoid routine use of steroids.

Summing up

In 1985, the total sale of drugs in India amounted to Rs. 1777.58 crores.

Of this sales of essential drugs was Rs. 632.52 crores and sales of non-essential drugs was Rs. 552.05 crores.

The sale of non-essential products like tonics, vitamins and enzymes are almost as great as the sale of anti-TB drugs.

The reasons for this shocking state of affairs are:

There are no stringent regulations applied to drug advertisement.

New products are being introduced in the market without proper evaluation of their efficacy.

Almost every drug is promoted as a safe drug. The public is rarely informed about the toxic effects of many drugs.

Drugs are not controlled by prescription and can be obtained freely over the counter.

Advertisements rarely mention prices.

The use of brand names as opposed to generic names enables industry to sell similar drug formulations at widely varying prices.

Do's and don'ts for medicines

Use medicines only when you must and remember the following precautions:

Use only essential and single ingredient drugs.

Learn to differentiate between generic and brand names.

Know the names of your medicines, keep prescriptions or have a diary to list down what you have used.

Keep the cash memo so any change or returning of medicines will be easier.

Always check the expiry date of medicines, since they tend to deteriorate with time. Expired drugs can be harmful.

Do not use someone else's drugs.

Read the warning written on drug packs, and package inserts.

Most of them are written in very small print.

Read the warnings carefully as they tell you of the dangers of using that drug so you can recognise any such symptoms if they arise.

Discuss the side effects of drugs prescribed with your doctor.

Find out when the drug is to be taken, before or after meals, and any other precautions to be observed. e.g. tetracyclines should not be taken with milk.

Always check important information on drugs in the case of pregnancy, nursing mothers, liver, kidney disease, or those having known drug sensitivity.

Inform your doctor if you have any known allergy to any medicine.

Avoid injections where tablets will work.

Take medicines, specially antibiotics for the complete period recommended, unless there are untoward symptoms.

If a prescription contains several ingredients find out what is essential.

Substitute tonics by food.

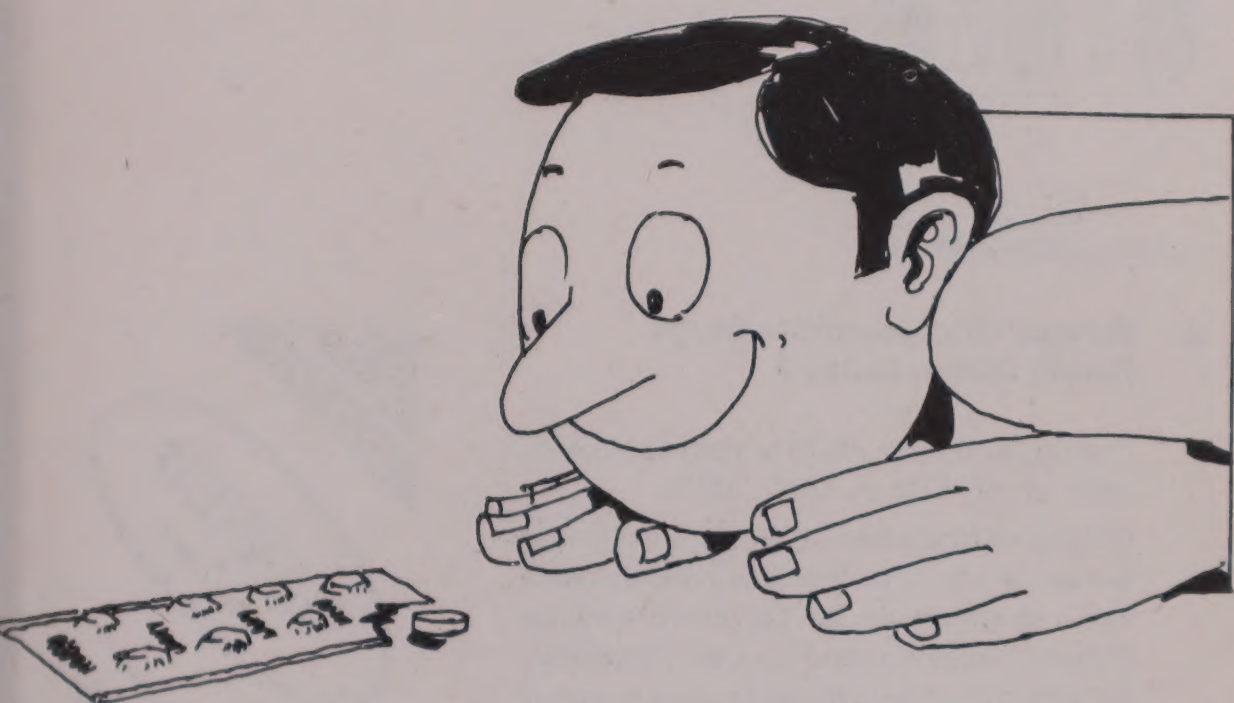
Use simple kitchen remedies for common ailments.

Stop using irrational and hazardous drugs.

In children-remember the fewer the drugs the better it is for their health.

Encourage preventive health measures to avoid disease.

Using iodized salt to prevent goitre, exposure to sunlight to enable the body to synthesise enough vitamin D, (avoid buying vitamin D supplements).



Think before you take your pill

So it may cure not make you ill

Also Available



1. "Hello Doctor" poster.

Summarizes the main points of this book. Attractively illustrated in 5 colours. Rs. 8

2. Banned and Bannable Drugs Health Action Series-2

Catriona Robertson, Dr. Ali Mardanzai, Dr. Mira Shiva, pp. 68, 1986 Rs. 10.00, VHAI

Dangerous Medicines—The Facts: first of its kind brought out in India. This book gives details of which drugs should be banned or severely restricted. Drugs that have been recommended for banning but are allowed to remain, a list of banned drugs, guidelines for establishing a national programme for essential drugs and criteria for the selection of essential drugs etc.



3. Rational Drug Policy

Mira Shiva, Dinesh Abrol, Narendra Mehrotra, Amitava Guha, W.V. Rane, pp. 163, 1986, Rs. 20.00.

This book was specially compiled for the drug policy campaign. It gives an overview of problems perspective and recommendations for a Rational Drug Policy. It deals with topics from National Drug Policy: Objectives and Guidelines to self reliance of the Drug Industry.

Most people fall ill at some time of their lives. They usually go to a doctor who gives them medicines. *However*, not all these medicines are effective; some are just useless, others actually dangerous. This little booklet will help you to understand which medicines you actually need.

The Voluntary Health Association of India (VHAI) is a secular non-profit organisation. The main objective of the association is to strengthen existing health programmes by creating an awareness about the health situation in the country. Its major activities are: production and distribution of books, pamphlets, flash cards, flannel graphs, film strips and slides on basic health care for the use of various health functionaries at the village level; campaigns on issues such as drugs, tobacco, baby foods etc; documentation of relevant materials for the use of activists, and training workshops and programmes for Community Development and Community Health Workers.